

favorite of the manatee or sea-cow. Other species of this widespread genus include *C. aequorea* in the Mediterranean, *C. rotundata* in the Red Sea, *C. preauxiana* and *C. webbiana* in the waters adjoining the Canary Islands, *C. griffithii* in the Antarctic off southern Australia, *C. angustata* in the southern Indian Ocean off the coasts of western Australia, *C. isoëtifolia* in the waters of the Indo-Pacific Oceans, *C. australis* in the Bay of Bengal, *C. asiatica* in the East China Sea around the Liu-kiu Islands, *C. acaulis* off the coasts of eastern Africa, *C. nodosa* in the Mediterranean, the waters adjacent to the Iberian Peninsula, and those off the coasts of northern and western Africa, and *C. serrulata* widely distributed in tropical seas.

THE NEW YORK BOTANICAL GARDEN.

BOOK REVIEWS

A Manual of Aquatic Plants*

GEORGE T. HASTINGS

Water plants are notoriously difficult to determine by the vegetative characters. Botanists in the Torrey Club range find the Key to Submerged and Surface-Floating Aquatics published by Miss Mary Barrett in the pamphlet Three Keys to Wild Flowering Plants helpful, but its range is very limited and the plants included are only those indicated by the title. Dr. Fassett has written a complete manual of the aquatic plants of the United States from Minnesota and Missouri east to the Gulf of St. Lawrence and Virginia. An aquatic is described as a plant that "may under normal conditions germinate and grow with at least its base in the water." For some reason bog and salt marsh plants are not included in the book. The general key in the first part of the book and the keys to species in the second part are based chiefly on vegetative characters. With the general key are sixteen plates to illustrate the terms used and the habits of the plants of each family. The descriptive treatment, besides keys to the species, has brief descriptions of each species and, with few exceptions, illustrations to show the whole plant with enlarged details where they help in identification. Fully half of the

* A Manual of Aquatic Plants. Norman Fassett. McGraw-Hill Book Co. 1940. vii+382 pages. \$4.00.

book consists of the full page plates of excellent line drawings. For Potamogeton there are fourteen plates illustrating thirty-three species and thirteen varieties or forms. In the case of the willows, where sixteen species are described, together with several varieties and forms, there are keys accompanied by illustrations to plants with mature leaves, to staminate plants and to pistillate plants in blossom. Other genera are treated as fully.

Scientific names used follow the International Code of Botanical Nomenclature. If the name used differs from that used in Gray's Manual or in Britton and Brown's Flora the name used in these works appears as a synonym, followed by G. or B.

If any adverse criticism were to be made of this book it would probably be of some of the species included or still more probably of species omitted. For example many botanists would not consider some of the willows as aquatics and the same would apply to many of the grasses and some at least of the twelve species of *Bidens* and nine of *Aster*. On the other hand the river birch (*Betula nigra*) would seem to deserve a place and certainly as long as any ferns are given the Virginia chain, marsh, and sensitive should be included. But Dr. Fassett anticipated this criticism: "The author is certain that no two individuals would make the same list of species; it is probable that the same individual would not make identical lists at different times." Because of this uncertainty as to the right of some plants to be considered aquatics the author has evidently included many that he considered doubtful.

The keys have been tested out for several years in Dr. Fassett's classes and proved easy to use. The book will be helpful to everyone who collects plants in ponds, lakes or marshes and along streams. The illustrations are attractive and add immeasurably to the usefulness of the book.

The Structure of Economic Plants*

R. C. BENEDICT

Although somewhat belated, it is worthwhile to publish a review of Hayward's "The Structure of Economic Plants." The text is

* The Structure of Economic Plants. H. E. Hayward. The Macmillan Co. 1938. 674 pages, 340 figures. \$4.90.